

SYLLABUS

COURSE # & TITLE: Math 050, Fundamental Mathematics **# OF CREDITS:** 3

CATALOG DESCRIPTION:

Instructs the student on basic arithmetic concepts, addition, subtraction, multiplication and division of whole numbers and fractions as well as signed numbers.

Semester Offered: Fall, Spring and Summer

Prerequisites: ACCUPLACER score of 25 or below.

Grading: Course is structured on a pass/fail system; Satisfactory (S) or Unsatisfactory (U).

Enrollment: Course is not available to students who place in Math 095; Pre-Algebra or higher. Student is allowed to repeat the course a maximum of one (1) time, with instructor approval, to earn a grade of Satisfactory, (S).
Course is not applicable towards any degree and/or certificate.

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will...

<i>Learn (L)</i>	<i>Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.</i>
<i>Think (T)</i>	<i>Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.</i>
<i>Communicate (C)</i>	<i>Students will exchange ideas and information with clarity and originality in multiple contexts.</i>
<i>Integrate (I)</i>	<i>Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.</i>
<i>Act (A)</i>	<i>Students will act purposefully, reflectively, and respectfully in diverse and complex environments.</i>

GENERAL LEARNING OBJECTIVES:

Upon completion of the course, the student should understand the following content areas:

- 1.) Basic Principles of Study Skills
- 2.) Addition & Subtraction
- 3.) Rounding & Estimation
- 4.) Multiplication & Division
- 5.) Exponents & Order of Operations
- 6.) Fractions
- 7.) Signed Numbers

SPECIFIC LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

- 1.1 Taking tests (L, T, C, A)
- 1.2 Overcoming Math Anxiety (T, A)
- 1.3 Succeeding in college (T, C, I, A)
- 1.4 Managing time (L, T, A)
- 1.5 Building confidence and self-esteem (T, C, A)

- 2.1 Find place value and names for numbers (L)
- 2.2 Write a whole number in words, standard form, and expanded form (L)
- 2.3 Add whole numbers and understand the principle of carrying (L)
- 2.4 Subtract whole numbers and understand the principle of borrowing (L)
- 2.5 Comprehend and use the properties of addition and subtraction (L, T)
- 2.6 Be able to identify key addition and subtraction words and translate to numbers in word problems (L, T)

- 3.1 Round whole numbers (L)
- 3.2 Use rounding and estimate sums and differences (L)
- 3.3 Solve problems by estimating (L)

- 4.1 Comprehend and use the properties of multiplication and division (L, T)
- 4.2 Multiply and divide whole numbers (L)
- 4.3 Solve problems by multiplying and dividing whole numbers (L)
- 4.4 Be able to identify key multiplication and division words and translate to numbers in word problems (L, T)

- 5.1 Understand the concept of Exponents (L)
- 5.2 Evaluate expressions containing exponents (L)
- 5.3 Understand and utilize the Order of Operations (L, T)

- 6.1 Identify numerator and denominator (L)
- 6.2 Understand the concept of a fraction (L)
- 6.3 Identify proper fractions, improper fractions and mixed numbers (L)
- 6.4 Be able to convert improper fractions to mixed numbers and visa versa (L)
- 6.5 Find the factors and prime factorization of a number (L)
- 6.6 Find the least common multiple and common denominator of two or more fractions (L)
- 6.7 Simplify fractions (L)
- 6.8 Addition and subtraction of fractions and mixed numbers (L)
- 6.9 Multiplication and division of fractions and mixed numbers (L)
- 6.10 Understand the principle of cross cancellation of fractions (L)
- 6.11 Understand and apply the concept of reciprocals of fractions (L)
- 6.12 Evaluate fractions raised to powers and apply the order of operations (L)
- 6.13 Be able to identify key addition, subtraction, multiplication and division words and translate to fractions in word problems (L, T)

- 7.1 Understand and graph signed numbers on a number line (L)
- 7.2 Add, subtract, multiply and divide signed numbers (L)

OTHER REQUIREMENTS:

Calculators of any type are not allowed in this course.

Dean, School of Science: Frank Williams

Date: 5/2/06